

**REMARKS**

The error in claim 9 noted by the Examiner has been corrected and it is therefore respectfully submitted that the rejection of this claim under 35 U.S.C. § 112, second paragraph, can be withdrawn.

All claims were rejected under 35 U.S.C. § 103 over the newly cited Rheinberger patent.

Rheinberger relates to the use of a thermally curable composition as a dental material or constituent of a dental material. That composition contains a Michael addition reaction product of a Michael donor and Michael acceptor, and optionally a modifying agent, in the presence of a base catalyst. As pointed out at the bottom of column 3, the product of the Michael reaction is a solid polymer and this is confirmed in the working examples.

In contrast to the Rheinberger reference, the resin composition of the present invention is a liquid which is curable by, for example, ultraviolet radiation. The resin composition is a Michael addition reaction product of a vinyl group containing compound, multifunctional acrylic ester,  $\beta$ -dicarbonyl group containing compound or resin in which the  $\beta$ -dicarbonyl group has two activated hydrogen atoms in its methylene position, the equivalent ratio of the vinyl group of the compound to the activated hydrogen atom is in the range of 0.01:1 to 0.9:1, and the equivalent ratio of all unsaturated groups in the vinyl compound and multifunctional acrylic ester to the activated hydrogen is greater than 1.05:1.

The disclosure of the Rheinberger patent has sufficiently broad disclosures to have some relevance to the claimed invention. However, numerous selections must be made in order to begin to approach the inventive composition. For example, Rheinberger's  $\beta$ -dicarbonyl containing compounds may contain either one or two activated hydrogen atoms in the methylene position which means a selection must be made among those compounds. The modifying agent is optional which means a decision to include the modifying agent must be made. The only criteria for the modifying agent set forth is that it contains at least one radically polymerizable group whose activity vis-à-vis the Michael donor is lower than the acrylate groups of the Michael acceptor, which means that many compounds outside the scope of the instant claims can be selected. The Office Action also acknowledges that neither of the equivalent ratios set forth in the instant claims are taught or suggested.

The Office Action observes that Rheinberger teaches that the properties of the composition will change depending on the ratios used and cites Table 6 as support for this statement. However, the only property of the composition referenced in Table 6 is a Shore hardness, which is a characteristic of a solid material. The Office Action continues with the assertion that equivalent ratios are result-effective variables because changing them will clearly affect the type of product obtained, citing M.P.E.P. 2144.05(b). However, this section of the M.P.E.P. points out that not only must a particular parameter be a result-effective variable but it must be recognized as such. Table 6 in the reference identifies the weight percent of various materials but makes no reference whatsoever to equivalent ratios. Accordingly, the alleged obviousness of optimizing the equivalent ratios is not valid because there is no recognition that such ratios are result-effective. Furthermore, nothing in Rheinberger teaches, and no one

skilled in the art would appreciate from Rheinberger, that observing the claim designated equivalent ratios would give rise to a liquid product. Quite to the contrary, Rheinberger's products are solids.

In light of this very basic difference between the claimed invention and Rheinberger, no consideration of any other assertions made in the Office Action is necessary.

In view of the above amendment and remarks, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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